

Title (en)
A HEARING DEVICE COMPRISING DIRECT SOUND COMPENSATION

Title (de)
HÖRGERÄT MIT DIREKTER SCHALLKOMPENSATION

Title (fr)
DISPOSITIF AUDITIF COMPRENANT UNE COMPENSATION DU SON DIRECT

Publication
EP 3681175 A1 20200715 (EN)

Application
EP 20150419 A 20200107

Priority
EP 19150885 A 20190109

Abstract (en)
A hearing device, e.g. a hearing aid, configured to play sound into an ear canal of a user, the hearing device comprising
• at least one input transducer (IT_q) for picking up sound s_q at said at least one input transducer from a sound field S around the hearing device and providing corresponding at least one electric input signal(s) I_{Nq} representing said sound s_q , $i=1, \dots, Q$, where $Q \geq 1$;
• an analogue to digital converter for converting said at least one electric input signal(s) to a digitized signal represented by discrete samples $s_q(p)$, where p is a time sample index,
• a processor for processing said at least one electric input signal $s_q(p)$ to a processed signal;
• an output transducer (OT) for converting an electric signal including said processed signal to an acoustic signal s";
a forward signal path of the hearing device being defined from an acoustic input to said at least one input transducer to an acoustic output of said output transducer having a forward signal propagation delay τ_{HI} of the hearing device, the hearing device further comprises a compensation unit for at least partially cancelling directly propagated sound from said sound field S that is propagated to the ear canal via a direct acoustic propagation path, wherein the compensation unit is configured to predict said directly propagated sound and to play it in opposite phase of said directly propagated sound. A method of operating a hearing device is further disclosed.

IPC 8 full level
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CPC (source: CN EP US)
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H04R 25/30 (2013.01 - EP); **H04R 2225/43** (2013.01 - EP US); **H04R 2460/01** (2013.01 - EP US)

Citation (search report)
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Designated contracting state (EPC)
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Designated extension state (EPC)
BA ME

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EP 3681175 A1 20200715; **EP 3681175 B1 20220601**; CN 111432318 A 20200717; CN 111432318 B 20240416; DK 3681175 T3 20220704;
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DOCDB simple family (application)
EP 20150419 A 20200107; CN 202010023574 A 20200109; DK 20150419 T 20200107; US 202016737624 A 20200108